



TIMELINESS STUDY – HOSPITAL REPORTS OF ADVERSE PREGNANCY OUTCOMES RECEIVED IN 2021

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**Lisa Lingleo
Theresa Sandidge, MA
Adverse Pregnancy Outcomes Reporting System**

PURPOSE

Timeliness studies are performed periodically by the Illinois Department of Public Health (IDPH) Adverse Pregnancy Outcomes Reporting System (APORS) to evaluate the time hospitals take to report APORS cases. IDPH regulations require Illinois hospitals to report infants who meet the APORS case definition within seven days of the infant's hospital discharge, but the actual timeliness often varies from hospital-to-hospital. Assurance of timeliness is important because APORS cases are considered high-risk and, as such, are referred to local community health agencies for follow-up services. The sooner intervention services begin, the better the outcomes for high-risk infants and their families. This study assesses the performance of hospitals in making timely reports in 2021. The results are used to provide hospital-specific feedback to improve case reporting.

METHODS

In 2021, 101 hospitals reported cases to APORS either electronically through the APORS database or on paper reporting forms provided by APORS. The hospital provides the infant's

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hospital discharge date and the reporting date for paper reports; the reporting date is generated automatically by the data system for electronic reports. These two dates were compared to determine hospital processing time for each report. For 2021, a total of 9,045 reports were analyzed. The average processing time was calculated for each hospital, as well as the percentage of cases reported within the seven-day requirement. An APORS case is considered timely if the report is completed by the hospital within seven days of the infant's discharge. Cases for whom drug exposure was the only case condition were not included in this study because obtaining results from drug testing may take longer than seven days.

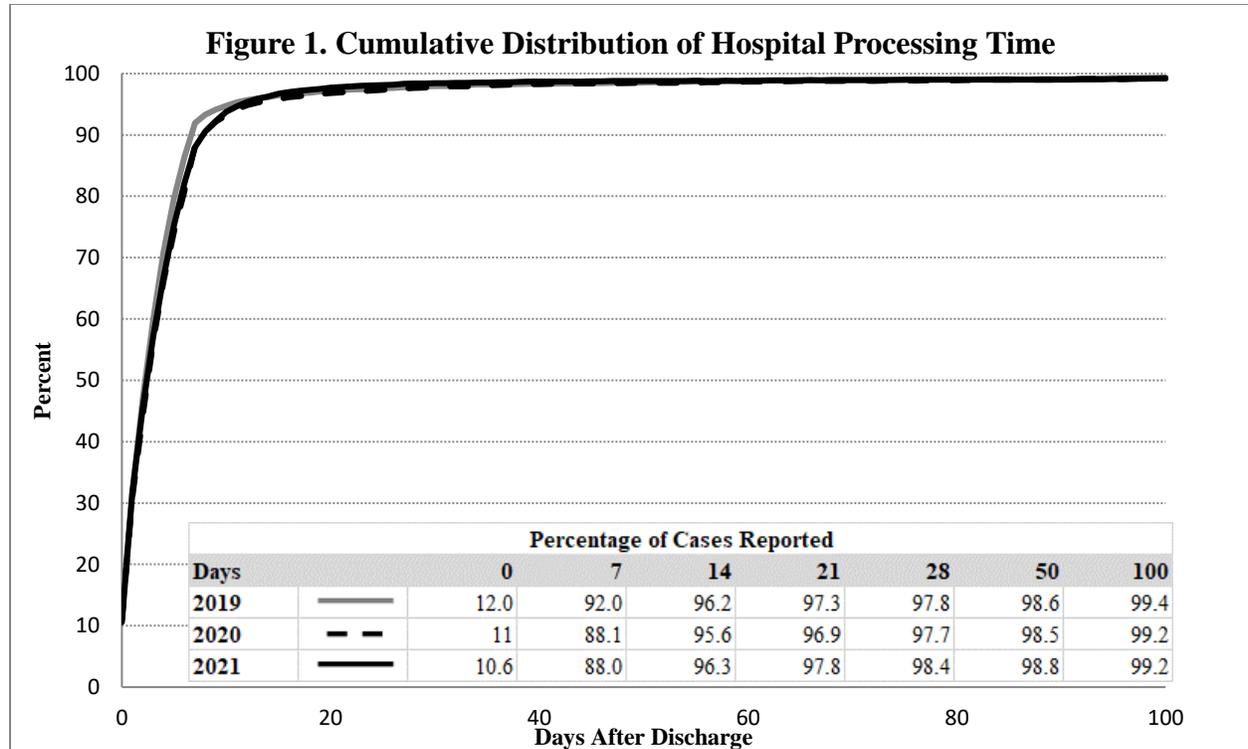
The APORS Program also looked at the time it took for reports to arrive at IDPH. The reporting date on the paper report and the date the form was received by the APORS Program were compared to calculate transit time. Extended transit times to IDPH mean that referrals to local health departments for follow-up services are slower than they should be. Transit times for cases reported through the electronic data system are zero days.

RESULTS

Processing Time for Cases Reported in 2021. Among all the cases, processing time ranged from 0 to 707 days with the median being three days and the mean being 5.8 days. The difference between the mean and the median indicates a right-skewed distribution of processing times. The cumulative distributions of cases with respect to reporting time are displayed in Figure 1; 45.6% of cases were reported within two days, while 88% were reported within the required seven days. Ninety-nine percent of cases were reported within 79 days. For comparison purposes, percentages of cases for 2019 and 2020 are also shown in the inset table of Figure 1. Timeliness in 2021 was about the same as in 2020 but slightly worse than 2019.

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Table 1 shows the average hospital processing time ranged from 1 to 93 days. Sixty-eight hospitals (67.3%) averaged seven or fewer days to process their reports. Hospital names on Tables 1 and 2 were eliminated to protect confidentiality. Table 2 shows that 49 (48.5%) hospitals reported 90% of cases, or more, within seven days of an infant’s discharge.



Source: Illinois Department of Public Health, Adverse Pregnancy Outcomes Reporting System as of January 2022

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Table 1. 2021 Cases: Average Time for Processing Infant Discharge Records by Hospital

Hospital Number	Number of Reports	Average Days	Hospital Number	Number of Reports	Average Days	Hospital Number	Number of Reports	Average Days
1	100	5.3	35	4	63.3	69	1	16.0
2	5	81.8	36	3	1.3	70	88	10.4
3	303	3.6	37	2	28.5	71	127	3.1
4	170	1.9	38	40	4.2	72	11	10.9
5	59	3.9	39	32	4.3	73	41	1.9
6	467	4.5	40	201	5.4	74	33	3.4
7	5	11.6	41	10	2.1	75	38	5.1
8	107	3.5	42	440	6.1	76	93	8.3
9	64	2.4	43	18	13.2	77	179	2.2
10	33	3.5	44	20	12.8	78	207	2.8
11	13	6.9	45	28	7.6	79	9	3.1
12	318	6.2	46	10	32.9	80	130	2.4
13	38	3.7	47	13	3.8	81	60	2.7
14	8	1.8	48	73	12.1	82	24	2.9
15	83	6.5	49	20	2.5	83	32	17.6
16	109	3.3	50	2	19.5	84	4	15.5
17	8	3.5	51	73	2.8	85	507	2.3
18	264	7.7	52	10	4.1	86	85	5.0
19	11	5.7	53	2	92.5	87	163	6.6
20	2	1.5	54	84	8.2	88	19	2.6
21	2	11.0	55	268	4.4	89	461	4.2
22	21	25.0	56	10	4.1	90	19	3.6
23	63	1.4	57	9	5.8	91	15	5.3
24	40	13.6	58	6	28.8	92	36	1.1
25	2	1.0	59	6	20.7	93	329	11.6
26	9	88.4	60	9	10.3	94	18	5.0
27	124	7.2	61	19	2.7	95	34	52.8
28	202	6.3	62	38	5.2	96	105	5.9
29	14	0.6	63	3	39.7	97	77	11.2
30	29	7.4	64	91	3.4	98	214	4.2
31	320	3.7	65	78	4.9	99	4	0.8
32	41	10.0	66	2	3.0	100	9	6.9
33	5	0.6	67	43	2.2	101	1075	7.4
34	64	1.8	68	28	2.4	APORS Average		5.8

Source: Illinois Department of Public Health, Adverse Pregnancy Outcomes Reporting System as of January 2022.

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Table 2. 2021 Cases: Percentage of Reports Submitted Within Seven Days by Hospital

Hospital Number	Number of Reports	% Reports in 7 Days	Hospital Number	Number of Reports	% Reports in 7 Days	Hospital Number	Number of Reports	% Reports in 7 Days
1	100	87.0	35	4	25.0	69	1	0.0
2	5	40.0	36	3	100.0	70	88	83.0
3	303	95.0	37	2	0.0	71	127	96.9
4	170	98.2	38	40	97.5	72	11	90.9
5	59	94.9	39	32	84.4	73	41	100.0
6	467	93.1	40	201	86.6	74	33	90.9
7	5	20.0	41	10	100.0	75	38	81.6
8	107	91.6	42	440	88.6	76	93	89.2
9	64	95.3	43	18	66.7	77	179	96.6
10	33	97.0	44	20	60.0	78	207	94.2
11	13	69.2	45	28	92.9	79	9	77.8
12	318	86.5	46	10	70.0	80	130	94.6
13	38	97.4	47	13	84.6	81	60	95.0
14	8	100.0	48	73	91.8	82	24	91.7
15	83	89.2	49	20	100.0	83	32	87.5
16	109	97.2	50	2	50.0	84	4	75.0
17	8	87.5	51	73	98.6	85	507	98.0
18	264	79.2	52	10	90.0	86	85	90.6
19	11	72.7	53	2	0.0	87	163	91.4
20	2	100.0	54	84	92.9	88	19	100.0
21	2	0.0	55	268	84.3	89	461	80.0
22	21	71.4	56	10	80.0	90	19	84.2
23	63	100.0	57	9	88.9	91	15	86.7
24	40	87.5	58	6	83.3	92	36	97.2
25	2	100.0	59	6	83.3	93	329	95.1
26	9	44.4	60	9	88.9	94	18	88.9
27	124	87.9	61	19	94.7	95	34	35.3
28	202	88.1	62	38	94.7	96	105	84.8
29	14	100.0	63	3	33.3	97	77	75.3
30	29	96.6	64	91	84.6	98	214	94.4
31	320	90.6	65	78	83.3	99	4	100.0
32	41	78.0	66	2	100.0	100	9	77.8
33	5	100.0	67	43	95.3	101	1075	74.1
34	64	98.4	68	28	100.0	All APORS Cases		88.0

Source: Illinois Department of Public Health, Adverse Pregnancy Outcomes Reporting System as of January 2022.

Transit Time for Cases Reported in 2021. Among all the cases, transit time ranged from 0 to 120 days with the mean being 0.08 days and median zero days. There were no hospitals that had an average transit time of more than seven days. Seven hospitals (6.9%) had at least one record that took more than seven days in transit.

DISCUSSION

Case-Level Assessment. In 2021, more cases (21%) were reported on the day after discharge than any other day. This day, the following three days, and the day of discharge itself were the top five reporting days, accounting for 67% of the reports. Eighty-eight percent of cases were reported within seven days of discharge, as required by administrative rules. This is the same as 2020. Timely reporting assures that newborns can be offered case-management services soon after discharge from the hospital, when the children and families will most benefit.

Hospital-Level Assessment. The main objective of the study is to assess the timeliness of reporting APORS cases at the hospital level. To that end, individual hospitals were rated based on reports received in 2021. Thirteen hospitals were not rated as they submitted too few cases (less than 5) to provide stable estimates. Table 3 illustrates how the categorical ratings were determined. Of the 88 rated hospitals, 72 (81.8%) met compliance standards. The percentage of hospitals meeting compliance standards in 2021 was slightly more than in 2020 when 78.9% of the hospitals were compliant.

Table 3. Hospital Ratings for Compliance with Timeliness Standards in 2021

Rating	Cases Reported Within 7 Days	Number of Hospitals	Percentage
Compliant Overall	80 - 100%	72	81.8
Not Compliant	< 80%	16	18.2

A facility-specific summary report has been distributed to each hospital (see the Appendix for an example). The summary report documents each facility’s level of compliance with APORS’ requirements and contains information about the transit times for a facility’s reports. Hospitals are also provided with the statewide report, so that they have an overview of the study and its results.

Training and Education. Hospital training and education are important for APORS data quality, case completeness, and timeliness. APORS webinar recordings were made available for viewing by hospital staff and perinatal administrators in the state at any time. Additionally, throughout the year, APORS provided individual level training for facilities with compliance challenges or staff turnover.

APORS regards the timeliness study as an important tool for determining hospital compliance with reporting standards and will repeat this study annually. The hospital-specific timeliness reports serve as a valuable measure of facility performance and can assist hospital managers with identifying issues regarding timely reporting.

Appendix Sample Report

Illinois Department of Public Health
Adverse Pregnancy Outcomes Reporting System

Timeliness Study for Cases Submitted in 2021
Hospital Compliance Report

January 2022

Timeliness Standard for Reporting APORS Cases:

Cases must be reported within seven days of the infant’s discharge or death.

Hospital Name
Facility ID Number

Cases Reported	Average Time (Days)	Percent of Cases Reported within 7 Days	Compliance Rating
29	3.2	89.5	Compliant

Compliant means that 80 to 100 percent of the cases were reported within seven days.

Not Compliant means fewer than 80 percent of the cases were reported within seven days.

Not rated means the hospital reported fewer than five cases or it was an out-of-state hospital and not subject to APORS regulations.

The following information does not have a bearing on compliance or non-compliance with the timeliness standard for reporting APORS cases, but delays in reporting may impact the care a child receives after discharge from hospital.

Average Time in Transit (Days)	Percent of Cases Received within 7 Days of Being Reported
2.8	95%